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## Improved Definition of Crustal Anomalies for Magsat Data Quarterly Report No. 4

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This is a brief summary of the ongoing efforts to define and model external magnetic field activities during the fourth quarter of this project.

### Baseline Corrections

Work has been continuing in the processing of ground observatory data to establish baseline corrections. Data has been obtained and plotted for the five international quiet days of each month that MAGSAT was in orbit. In addition, the values of the magnetic field at midnight have been plotted for each of the quiet days. The results show that the zero level of the field does indeed fluctuate over the time interval under consideration, and that the zero baseline values will be an essential element in the reduction of MAGSAT data.

### External Field Indices

In addition to quiet day data, statistical studies have been made for the Kp index, and preliminary statistical studies are underway for the Ap index. At this point we have obtained final Kp values through August of 1980, and provisional values of Dst through June. Furthermore, sunspot numbers have also been obtained for the MAGSAT period.

### MAGSAT Software

Further developments have been made on software to process the MAGSAT investigator tapes. Specifically, the MAGSAT data is being thinned and re-formatted to make it more amenable to testing the Dst and Sq corrections. At present, this software is being tested with intermediate attitude data.